

same part of the gullery, which was an enormous one in a rush-bed. The nests and eggs are similar to those of *L. maculipennis*, excepting that there is less variation in the colour of the eggs, and their average size is a shade larger.

XVIII.—Notes on the Nidification of some Indian Birds not mentioned in Hume's 'Nests and Eggs.'—Part II. By E. C. STUART BAKER, F.Z.S.

[Continued from p. 64.]

20. LIOPTILA ANNECTENS. (*Oates*, Fauna of British India, Birds, i. p. 199.)

The nest of Blyth's Sibia is a deep cup strongly, though rather loosely, built, with massive walls and base, averaging nearly 6 inches in outward diameter by some 3 in depth, and with a cavity measuring about 4 inches or less by about 1"·6 in depth. Some few nests are deeper, the cup being as much as 2"·5 internally. All the nests I have seen (now some seven or eight) appear to consist of three very distinct parts. The outer shell is formed mainly of living moss and moss-roots, more or less intermixed with a little grass, a few leaves, tendrils, weed-stems, or similar materials. Inside this, and below the true lining, is a layer of grass and roots, often much mixed with the thin soft stems of some herbaceous plant, whilst the actual lining consists of fine fern- and moss-roots, and also of the stems of maiden-hair fern. The nest of *L. capistrata* found by Captain Cock seems to have been lined in much the same manner (Hume's 'Nests and Eggs,' vol. i. p. 134). Unlike its nearest allies, which appear to place their nests in very elevated positions, this Sibia seldom builds more than 20 feet or so from the ground, generally selecting a slender branch on the outside and at the top of some small sapling standing in thin evergreen-forest. I have not, however, taken its nest from deep forest and never from open country, but have had one brought to me which the bearer said he had found in a densely-wooded hollow near the summit of a lofty grass-covered hill. The

full complement of eggs seems to be three; less than this number I have never seen showing signs of incubation, and four I have not taken.

In appearance, judging only from the description given by Hume, the eggs must very closely resemble those of *L. capistrata*, and they are extremely like the eggs I have personally taken of *Actinodura egertoni*. The ground-colour is a pale, rather bright blue-green, the markings consisting principally of pale reddish-brown lines, together with a few blots, blotches, and specks of the same colour, in addition to which there are often a few well-marked dots of purple red and a few indistinct blotches, looking as if half washed out. The lines are often of great length, though from their twisted and knotted character they do not always take much room. In two eggs out of three these lines are the predominating form of marking, in others the clouds and blotches are most numerous, and in some they are equally distributed. In all my eggs the markings, of whatever kind they may be, appear to be confined to no portion of the surface in particular.

In shape the eggs are rather long ovals, very regular as a rule, but occasionally a little compressed towards the smaller end, which is, however, always blunt. The surface is smooth, but almost, if not quite, glossless, and when examined very closely is seen to be minutely, almost invisibly pitted. Fifteen eggs average 0''·86 by 0''·59, and in length vary between 0''·82 and 0''·89, but in breadth only between 0''·58 and 0''·61.

My largest and smallest eggs were both obtained in the same clutch. I have only found it breeding on the lofty Hungrum and Léré ranges and the surrounding peaks, which rise to over 6500 feet, and it rarely, I think, descends below 5000 feet. It breeds, so far as I know, in April and May only.

21. STAPHIDIA CASTANEICEPS. (*Oates*, op. cit. i. p. 205.)

At least nine tenths of the nests of this little *Staphidia* I have taken—and by this time the number must be over 40

—have been found in holes in roadside cuttings. Nearly every road in North Cachar has a straight bank of earth on one side from which the soil has been cut away, either to form the road or to lower the level, and in these banks the chestnut-headed *Staphidia* makes its nest. I have taken them from natural hollows, such as are caused by the falling out of a stone or decay of a large root, or from near the entrance of deserted rat-, Kingfisher-, or Bee-eater-burrows. Sometimes they will be found just inside rather large holes, part of the material hanging out and proclaiming the presence of the nest to any one who approaches within a few yards; at other times in some hole the entrance to which is completely screened from view by overhanging ferns, moss, or weeds. Once I have found the nest amongst the roots of a laurel-like shrub, and further protected by a large clod of earth which lay above it; another nest was taken from a hole in a mud-wall, and two from the steep banks of ravines.

The nest is almost invariably made entirely of the very softest shreds of grass and of a material which looks like very silky jute, and is probably the inner bark of some tree; the lining is of the same material only. In a few nests I have seen some dead leaves, a few dead brown plant-stems, fern-roots, &c., used generally only for the purpose of filling up the gap between the nest itself and the entrance to the hole, but occasionally for the groundwork of the nest itself, and they were particularly numerous in the nest found in the roots of the laurel.

The nest is a very compact, well-built little structure, with thick closely-woven walls. Outwardly there is practically no shape, this conforming to the hole in which it lies, but the receptacle for the eggs may be said to average some 2" in diameter by rather less than 1" in depth. I have taken nests as much as 9''·3 across the external diameter and others well under 2''·5, and some are not more than 0''·5 in the centre of the depression.

The ground-colour of the eggs is white, of a pearly or china tinge, rarely tinted faintly with green, and yet even more seldom with grey. The markings vary a good deal,

both in coloration and tint, but not much in character. They may be said to grade from pale sienna to dark vandyke-brown as regards the superior markings, and from pale grey to dark neutral tint as regards the inferior ones, though these latter are often totally absent. In shape they are normally small, with irregular blotches and spots; in some eggs the whole surface is minutely and profusely *speckled*, in others the blotches predominate or the specks are altogether wanting, and these eggs are therefore of a bolder appearance. As a rule the marks, of whichever shape they may be, are most numerous at the larger end, and rather sparse comparatively at the smaller; occasionally they are scattered equally everywhere. Rings or caps are not at all commonly met with; I have two or three clutches containing one or more eggs which possess them in a slight degree, but none in which they are at all well marked.

In shape they are broad, very regular ovals, and abnormal eggs are extremely rare. The texture is fine and very smooth, though fragile, showing a faint gloss, not always present and rarely at all strongly developed. Fifty eggs average 0''·67 by 0''·52, fully, and they range in size between 0''·64 × 0''·49 and 0''·69 × 0''·56, but very few eggs will be found that do not measure between 0''·50 and 0''·53 in breadth.

22. YUHINA NIGRIMENTUM. (*Oates*, op. cit. i. p. 212.)

The nidification of this bird is given in Hume's 'Nests and Eggs,' vol. i. p. 139, but (as Oates has always thought) the identification by Gammie of his nest could not have been correct. That of Jerdon's was, of course, made by a native, and his note is therefore quite valueless. This year I have been fortunate enough to obtain two nests, one of which I practically found and took myself, and which is now in the Natural History Museum, South Kensington. I had been out birds'-nesting, and, on my return to camp, passed a dead tree by the roadside covered with most luxuriant lichen. To get some of this I sent a Naga up the tree, and on climbing up he disturbed a bird; looking under the bough in the place whence the bird flew, he found a nest and four

eggs. In accordance with my instructions he set a noose or two about the nest for the bird and came down. We both then hid a little way off, and it was hardly a quarter of an hour before the female returned and was trapped. The bough of the tree was covered with long pendent lichen, growing very thick and close, and it was between two long pieces that hung either side of the branch that the nest was suspended. In shape it is a very massive, compact little cradle, the two ends prolonged and intertwined with the lichen from which it hangs. Outwardly the longest way it measures 3''·4, and across the narrowest way 2''·8. The depth of the actual nest is 1''·85, or, including the lengthened sides, 2''·55. The egg-cavity is 1''·75 across the top and 0''·88 deep. The material consists almost entirely of moss-roots, only a very few small scraps of dead moss being also used, and the lining is composed of the very finest stems of grasses and one flowering grass-end. Strength is added by the help of numerous cobwebs, these being most numerous about the portion which includes the supporting lichen.

Of the eggs, one was broken by the hen bird in its struggles to escape, the other three measure 0''·68 × 0''·50, 0''·67 × 0''·50, and 0''·64 × 0''·49. In colour they are a very pale but bright sea-green, and they are rather profusely spotted all over with very pale brown irregular blotches, which also form a ring about the larger end nearly 0''·15 wide, inside which the marks are very few. On the ring are a few dots of darker brown, some quite dark vandyke, and one or two of these are also to be found inside the ring.

The nest was taken at Guilang, a village some 4000 feet above the sea, on the 29th of July; the eggs were just commencing to show signs of incubation.

Another nest was brought to me by a Naga, together with a male, and exactly corresponds in every single detail with that already described, and was found attached to another dead tree not 20 yards from that on which the other was found. It contained four eggs very hard-set, which differ from those in the first nest only in being slightly duller. They measure 0''·66 × 0''·51.

The texture of the eggs is smooth and fine, but is glossless and rather chalky, though stout for so tiny an egg.

23. *ZOSTEROPS SIMPLEX*. (*Oates*, op. cit. i. p. 215.)

I found a few of these birds breeding on the high ranges to the east of the North Cachar Hills. There is absolutely nothing to note about their nidification which in any way differs from that of *Z. palebroza*. I have not met with any nest so completely plastered with cobwebs and spiders' egg-bags as the nest of *Z. palebroza* is sometimes found to be. I have not seen this bird below 3000 feet, and it is very local in its distribution. In 1893 I did not come across a single specimen, and I should not be surprised to find that it is hardly a regular resident so far west as Cachar.

24. *CHLOROPSIS AURIFRONS*. (*Oates*, op. cit. i. p. 234.)

This bird is one of the later breeders, seldom laying before the end of May or beginning of June, and its eggs may be found well on into the middle of August, as on the 16th of this month I once took two fresh eggs. The earliest date on which I have seen eggs was the 12th of May, 1891. The nest appears to be very like that of *C. jerdoni* (Hume, 'Nests and Eggs,' 2nd edit. vol. i. p. 155), but I have seen very few of this bird's nests, and judge principally from the accounts in the book just referred to.

Amongst other birds'-nests to which it nearly approximates are those of the genus *Hemixus*, the nests of that genus differing principally in being more bulky and less tidy. It is generally placed in a semi pendent position in a small horizontal fork, the supporting twigs coming outside the sides of the nest, which does *not hang* from them as does an Oriole's. The fork chosen is usually one on the outer branches of some small tree or sapling, less often in a stout fork of some larger tree, and I have never seen a nest placed on the upper surface of a large bough in the manner that *C. jerdoni* is said sometimes to build.

In shape the nest is a rather shallow cup, measuring in outward diameter from 3".5 to about 4", and in depth from 1".3 to 1".8, the latter depth being unusual, it generally being

under $1\frac{1}{2}$ inches. The inner portion is made of very fine twigs and coarse grass-stems, more or less mixed with moss-roots and fine tendrils of convolvuli and other creepers, and sometimes with stalks of the common maiden-hair fern. The whole of this is bound together, and also more or less interwoven, with soft grasses, dead scraps of moss, and a material which appears to be the inner bark of some tree. Further strength is added by means of cobwebs, a very large amount of this material being used in a few nests. The nest, when not in an upright fork, is very firmly fixed, although not much of the material of which the nest is composed is actually wound round the supporting twigs. I have seen one or two nests with a little live moss incorporated with the other materials, giving to them an appearance much like small neat nests of *Hypsipetes psaroides*. The eggs, which are usually two in number, sometimes three, vary in ground-colour from a pale pink, so faint as to appear white, to a rather warm pink, though eggs at all deeply tinted are the exception. Most eggs are marked with small specks and spots of a deep reddish brown, and also with irregular lines and streaks of the same colour, often so dark as to appear black if only casually examined. In most eggs the specks and spots appear to be the predominating form of markings, but in others the lines predominate, and in one egg I possessed nearly all the markings were of this character. Whatever they may be, however, they are not numerous, and are mostly confined to the larger end, where they often form a zone. Another type of egg has all the marks, of whichever kind, blurred and fainter, looking as though some one had tried to wash the egg and, by so doing, caused the colour of the markings to become paler and, at the same time, to run, giving the egg a mottled surface, not unlike a weakly-marked egg of *Criniger flaveolus*.

Most eggs are long in shape: some very regular ovals, and others decidedly pointed. The shell is close-grained, smooth, and delicate, and in the majority of cases shows a faint gloss, seldom at all pronounced. Fifteen eggs taken in North Cachar average $0''\cdot94 \times 0''\cdot65$, but deducting the three largest,

which are abnormally large, and which were brought to me by a Naga with one of the parent birds, the remaining 12 average only $0''\cdot91 \times 0''\cdot635$. They vary in length between $0''\cdot86$ and $1''\cdot1$, and in breadth between $0''\cdot62$ and $0''\cdot69$. This bird makes its nest in trees on the outskirts of forest or in small thickets in nullahs surrounded by grass-land, never, so far as I know, inside heavy forest.

25. *CHLOROPSIS HARDWICKII*. (*Oates*, op. cit. i. p. 236.)

There is hardly anything to say about the nidification of this species which I have not already said of *C. aurifrons*. I have seen very few nests, and of these it can only be remarked that two were deeper than any I have seen of that bird, one measuring over $1''\cdot8$ and the other $2''\cdot05$. It builds in the same sort of position also, but selects higher trees, and I have not taken any nest below 25 feet, and one or two from very much more lofty sites, whereas *C. aurifrons* seems to prefer a height of some 12 to 20 feet. I do not remember seeing any nest of this *Chloropsis* which contained, amongst the materials of which it was composed, any green moss. Both birds breed during much the same period.

The few eggs I have seen of this handsome *Chloropsis* could not possibly be distinguished from those of *C. aurifrons*, and differ from those of *C. jerdoni* only in their much greater size, averaging, as they do, $0''\cdot91 \times 0''\cdot61$. I have one egg among these seven which is exceptionally large, measuring $1''\cdot05 \times 0''\cdot7$, and it is worthy of note that I should have found abnormally large eggs both of *C. aurifrons* and *C. hardwickii*, the more especially as I have seen but very small series of both.

26. *MELANOCHLORA SULTANEA*. (*Oates*, op. cit. i. p. 241.)

I have taken only one nest of this handsome bird, and, as I was out after big game at the time, I could not shoot either of the parent birds, though I saw them very distinctly, and have no doubts about my identification of them having been correct. It will be seen that both nest and eggs show very strong affinities to those of the Tits, and probably the position in which this genus was originally placed (*i. e.*, in

the family Paridæ) will be found the right one, and it will have to be removed from the Liotrichinæ.

The nest in question was taken on the 17th May, 1890, and was placed in the bottom of a long narrow crevice which ran down several feet of one of the main boughs of an old oak tree. This tree was one of a thin scattered forest of oaks, with rather short, though coarse, grass undergrowth, the forest being interrupted with occasional patches of grass-land or with dense bush and tree-jungle at the bases of the hills, which here ran to some 1500 feet. At the time I found the nest I was out after gaur, and whilst resting for a few moments on a fallen tree I observed a Sultan-bird flying about in a very peculiar manner on a tree opposite to where I was sitting. In his mouth he seemed to be carrying something edible, and it was not long before he made up his mind that I was nothing very dangerous, and, flying off to another oak some dozen paces away, shortly disappeared into the crevice already mentioned. Of course I concluded that there must be a nest, and at once sent up one of my native trackers to investigate. As he went up the two birds flew away, and, after examining the bottom of the hollow, he reported a nest containing seven eggs. The nest was composed almost entirely of small scraps of fern-fronds and moss, mostly of lycopodium and other moss-ferus, two or three kinds of which grew very luxuriantly close by. In shape it merely fitted closely into the bottom of the hollow in which it was placed, and as this gradually narrowed to a point, the nest, when removed, roughly approximated to an inverted cone. In depth and diameter it was about 4" either way, and the depression in which the eggs lay was about 3" across by rather less than $\frac{1}{2}$ " deep, and even this was nearly filled with the soft cotton down taken from an adjacent bombax. The eggs, most unfortunately, were very hard-set when I found them; from two the chicks were even then emerging, and these I broke in the attempt to clean them; three others were blown, though with great difficulty, and two were comparatively easy to manage.

The ground-colour is a chalky white, and the markings

consist of numerous, rather bold and rich, though small, blotches and spots of brownish red, with others, secondary to them, of pale neutral tint and pinkish grey, the pink tinge varying considerably in intensity. In shape they are broad regular ovals, the smaller end differing but slightly from the larger. The texture was much like that of the eggs of *Machlolophus*, yet even more chalky and decidedly more fragile; but it must, of course, be taken into consideration that the eggs were very much incubated, and under ordinary circumstances the fresh eggs would be far less delicate. There is no gloss on their surface. The five eggs average $0''\cdot76 \times 0''\cdot6$.

Another clutch of eggs, *said* to belong to this bird, were brought to me by a native, but they were so hard-set, in addition to being damaged, that I found it impossible to preserve them. They differed from those described above only in being much larger, $0''\cdot83 \times 0''\cdot65$, and in being *slightly* more compressed at the small end.

27. HEMIXUS FLAVALA. (*Oates*, op. cit. i. p. 263.)

This bird builds a nest which generally bears a character distinct from those of all other Bulbuls. The typical nest of the species is composed either entirely or nearly so of grasses, the major portion of these being rather stout and strong ends, from which all seeds and flowers, with their attaching stems, are stripped. The lining is almost invariably made of these, and the body of the nest with these and other grasses, stems, and leaves intermixed; sometimes strips of ekra-leaves and other broad-bladed grasses, at other times thin yellow shreds from the bark of the stems and other fine materials. Other nests have various materials mixed with the grass, such as bamboo-leaves or a very few small elastic twigs, and in one nest I took there were several scraps of moss and a few fern-roots. In shape the nest is a compactly made and rather deep cup, averaging some $3\frac{1}{2}$ inches across by about $2\frac{1}{2}$ deep. The inner diameter is something under 3 inches, and the depth from $1\frac{1}{2}$ to 2. It is generally a neatly built nest, the component parts

being strongly interwoven and carefully put together. The favourite breeding-ground of the Brown-eared Bulbul consists of dense scrub-jungle growing at elevations over 4000 feet, and I think I have taken more nests from wild lemon-bushes than from any other kind of shrub. These lemon-trees are of exceedingly thick foliage, and the bird selects a place low down in a stoutish fork in which to place its nest, as a rule at heights under 3 feet from the ground, seldom, if ever, over 5 feet from it. I have taken one nest from a bunch of coarse grass and creepers growing by a forest-track, but on no other occasion have I known them to build in a similar place. In ground-colour all my eggs are the same delicate pale pink, of a beautifully clear tint, and the markings consist of small specks, spots, and freckles, varying in shade from bright light pink-red to dark brownish red; in all, however, the character is the same, and in all eggs they are very numerous over the whole surface, being but slightly more so at the larger end than at the smaller. Many eggs are practically undistinguishable from those of *H. macclellandi*, but, typically, they are brighter and far lighter.

Eighteen eggs vary in length between 0".87 and 0".96 and in breadth between 0".72 and 0".69, the average of the same number being 0".93 \times 0".69.

The texture is very much the same as that of the eggs of *Otocompsa*, especially *O. flaviventris*, but is, if anything, finer and closer. In shape they are rather regular, very long ovals, abnormal eggs being even longer; pegtop or spherically inclined eggs I have not seen, and I can remember but two eggs which were of a broad oval type. Three is the full complement of eggs, almost as often only two being laid, and never, in my experience, four. The birds breed principally in May, and a good many in the end of April and in June, but very few as late as July, in which month *H. macclellandi* is still to be found breeding in considerable numbers.

28. *ALCURUS STRIATUS*. (*Oales*, op. cit. i. p. 266.)

The few nests of this species which I have seen were all very much alike in every respect: shape, materials, and con-

struction. The first nest I ever saw was found by me when marching from one camp to another. The track or pathway by which I was going wound steeply upwards, in short zig-zags, through evergreen forest containing a dense undergrowth of all kinds of bushes. From one of the densest patches of these bushes a pair of Striated Green Bulbuls flew and settled again close by, swearing loudly, and evidently in a great state of excitement. Of course I at once commenced to search for a nest, but could find none, and gave up the hunt to continue my way. I had gone only a few paces, however, when one of the birds returned, and, noting the exact spot whence it again flew away on my approach, I at last succeeded in finding the nest. It was built amongst a mass of twigs in a thick bush within a few inches of the bank, and was also partially hidden by fallen leaves and a creeper, which grew across it. The nest was in three quite distinct parts, the outermost being composed entirely of fine elastic twigs and coarse fern-roots, both strongly and closely interlaced one with another; inside this outer wall are more twigs and roots and a good many stems of small weeds, but all these materials are merely wound loosely round and round, and *not* interlaced one with another, just as is the true lining, which consists of very fine strips of grass. Two nests brought to me by natives very closely resembled this one already described, and were found in the same forest, all at an elevation of some 5800 feet. The only other nest I have seen was taken by myself from a clump of bamboos growing in mixed bamboo- and scrub-jungle, which had sprung up where the forest had first been cleared and the land cultivated and again abandoned. This nest differed somewhat from the others in that it had a certain number of fronds of fern-moss used in its construction.

The nests are all very strongly and compactly built, and in shape are rather more shallow than hemispheres, averaging outwardly some 4" in diameter by 1"·63 in depth, whilst the cavity measures about 3" by rather more than 1".

All four nests were taken in the month of June. Three of these nests contained each three eggs, but I have only

taken notes about two of these clutches, one having been given away before I either measured them or noted down details as to coloration.

The general character of the eggs of this Bulbul seems to differ from any other that I know in its strongly developed brown tinge; the ground-colour is a very pale pinkish white, but is decidedly suffused with pale vandyke at the larger end. The primary markings consist of rather bold spots and small blotches, ranging in colour from dark reddish brown to a deep purple, underlying which are others of pale grey and neutral tint, more or less mixed with a good many smears and blotches of very pale vandyke-brown. In four out of six there are also one or two fine long hair-lines at the larger end, of a very deep purple-black or clotted-blood colour. Writing from what I remember of the three eggs which I gave away, I think they were decidedly less brown in coloration, and they were also differently shaped, being somewhat lengthened ovals, those now in my possession being all rather broad ovals, with the smaller end very little compressed and decidedly blunt. The average size of the six eggs is $0''\cdot84 \times 0''\cdot63$, the greatest length and breadth being $0''\cdot86$ and $0''\cdot65$ respectively, and the least $0''\cdot82$ and $0''\cdot60$. The texture is fine and close, and the shell less fragile, perhaps, than are the eggs of most Bubbles, but there is no gloss.

29. XANTHIXUS FLAVESCENS. (*Oates*, op. cit. i. p. 275.)

The nest of this Bulbul is very similar to one of *Molpastes* or *Otocompsa* that has been exceptionally neatly and compactly built and provided with an unusually luxuriant lining. The favourite materials consist of twigs, elastic dead stems of weeds, fern-roots, and tendrils of climbing plants, but always those are selected which are sound and fine, and, almost as invariably, such as are of a dark-brown colour. Less often a few dead leaves, fern-stems, or other similar articles may be used, but grass, bamboo-leaves, &c. appear never to be taken for the outer portion of the nest, although for the lining fine grasses are sometimes made use of, and very often indeed fine flowering ends which have been

denuded of their seeds. The yellow colour of this grass, when used as a lining, often shows in very striking contrast to the dark colour of the outer nest. In diameter, both inwardly and outwardly, the nests average much the same as those of *Hemixus flavala*, already described, but they are much more shallow, none that I have seen exceeding 1"·5 in depth, and the majority being but little over 1 inch. All the nests seen *in situ* by myself were low down in thick bushes, and were uncommonly well concealed. Most nests were in thick clusters of twigs, not higher than 3 feet from the ground; one or two were built in similar clusters 4 to 5 feet up, and one or two others were placed in thick forks, also low down. Two nests brought to me, with one of the parent birds, which had been trapped on them, were said to have been taken from small saplings, and from situations 7 to 8 feet from the ground.

Blyth's Bulbul does not seem to mind much in what kind of country it breeds, for I have taken nests from scrub-jungle, scanty forest, or steep hillsides, from dense mixed forest and bush in ravines, and from small clusters of bushes almost in open ground. I do not think it ever breeds below 2500 feet, and more commonly over 4000. The normal number of eggs is two, rarely three. The ground-colour is a pale cream, generally *very* faint, never at all warm, with primary freckles and tiny straggly blotches of brownish pink, less often brownish red. The secondary marks consist of the same sort of freckles, but of a pale pinky grey, and at the larger end there are often a few very pale blurred clouds of neutral tint, giving a purple tinge to this part of the egg. In distribution the primary and smaller secondary markings are almost equally distributed, but are, if anything, more numerous at the bigger end, where also, in most eggs, they form a very well-defined ring. In some the freckles are equally very numerous over the whole surface of the egg, the secondary blotches coalescing with, and much hidden by, the superior and darker ones. In shape the eggs are long regular ovals—the longest, proportionately, of all the eggs of the Brachypodinae. The shell is smooth, but gloss-

less, and is extremely fragile, though more of a soft than brittle nature. Fourteen eggs average $0''\ 94 \times 0''\ 58$, and the extremes in length are $0''\ 92$ and $1''\ 00$, and in breadth $0''\ 56$ and $0''\ 60$.

The birds breed principally in the end of May and June, but their eggs may be taken throughout July and not seldom as early as the latter half of April.

30. SPIZIXUS CANIFRONS. (*Oates*, op. cit. i. p. 280.)

The nest of this Bulbul cannot possibly be mistaken for that of any other, nor, indeed, do I know of any bird of any *other* family for whose nest it could be taken. The birds of the genus *Ianthocincla*, more especially *I. rufogularis*, build very similar nests, but, though the type is the same, their much greater size is alone sufficient to preclude all danger of wrong identification. The Finch-billed Bulbul, in selecting materials for building, scarcely ever takes anything but the tendrils of different climbing plants, and, considering their stiff and often rather unwieldy character, it is wonderful what a compact, stoutly made nest he manages to construct. Outwardly almost any kind of tendril which is sufficiently pliable is used, but for the inner part the bird seems to prefer the fine, but strong, tendrils of the small yellow ground-convolvulus, which are straight throughout four fifths of their length. As a rule there is no real lining, but in a few nests a withered serap or two of bracken may be found, or even, more rarely, two or three bents or grass-stems. Outwardly it is difficult to give any precise measurements, for, from the very nature of the articles used, the ends stick out in all directions, but inwardly they average about $2\frac{3}{4}$ inches in diameter, by under 1 in depth. The contrast in colour is often very striking between the reddish-yellow convolvuli suckers and tendrils which form the inner portion of the nest, and the greenish- and greyish-brown ones which form the outer part.

Nearly all the nests I have taken have been placed in scraggy bushes and saplings at heights varying from 5 to 10 feet from the ground; they are generally fixed in between several upright twigs, less often in stoutish forks. One nest

I took in July, 1893, was placed quite low down in a coarse weed, and was visible from all directions at a distance of several feet. The bird is a close sitter, and does not leave the nest until one is almost touching it. Two seems to be the full complement of eggs, and I have seen a single egg hard-set. In all eggs the ground-colour is a pale pink, of the same delicate shade as in the eggs of *Xanthixus*. In some the surface is freckled all over with reddish, generally rather dull and dark, underlying which freckles are others of the same character, but of pale dusky and purplish neutral tint; at the larger end these markings are even more numerous than elsewhere, and generally tend to coalesce, forming a blurred ring or cap. In a few eggs, though the colour of the markings is the same, they are rather larger, becoming blotches more than mere specks and freckles. About four clutches I have seen were of a much paler type, the colour of the freckles being a pinky red, instead of the usual dull reddish, and these eggs were much like the most common type of egg of *Xanthixus flavescens*. In about half the eggs of both types there are a few lines, short and very fine, inside the ring at the larger end, and these are invariably of a dark tint, either reddish brown or the colour of clotted blood.

In shape the eggs are long regular ovals, and abnormal eggs tend to be even longer. The texture is the same as in the eggs of *Xanthixus*. Twenty-four eggs average $1'' \times 0''\cdot7$. They vary in length between $0''\cdot9$ and $1''\ 12$, and in breadth between $0''\cdot66$ and $0''\cdot73$.

The birds breed principally in May and June. I have taken eggs as early as the 30th April, and others again as late as the 20th July. I have known of no nest taken below 4000 feet, and the majority I have taken were at an altitude of considerably over 5000.

31. IOLE VIRESCENS. (*Oates*, op. cit. i. p. 284.)

I have seen very few nests of this, the Olive Bulbul, and those which I have seen have been so precisely alike that a description of any one of them would do equally well for any

of the others. They are of the same type of nest as that of *Molpastes bengalensis*, but are stouter, compacter, and much more bulky, owing to more material being used in their construction, and of the five nests I have seen none have been in the least degree transparent, as the nests of that bird so often are. The chief article used in each nest consisted of long tough strips of the inner bark of a dark-coloured tree, mixed with a few scraps of the outer bark and a good many twigs, the latter all very fine and elastic. In four nests there were also a good many small dead leaves fastened into the outside of the base and walls, and in all five nests numerous cobwebs were used, both to attach the nest to its support and to hold the materials together. The lining in each nest is formed of black fern-roots and of long reddish fibres, the tendrils of some creeper, probably the convolvulus already alluded to. In three nests the fern-roots form the greater part of the lining, in the others the tendrils. Outwardly the nests average in diameter about $4\frac{1}{2}$ inches, and in depth about $2''\cdot 2$, the measurements of the egg-cavity being about $2''\cdot 5$ by $1''\cdot 1$.

The first two nests I took were placed in forks formed by a number of twigs sprouting horizontally from a thin branch, which stretched well out and away from the parent bushes, very tall and straggly ones, the nests being some $4\frac{1}{2}$ feet from the ground. Both nests were very firmly fixed to the twigs, a considerable portion of these being well covered by the materials with which the nests were made; both nests were visible from some yards away. Another nest was found in much the same position, and a fourth differed only in that it was placed in amongst a vertical bunch of twigs. Yet a fifth, which was *brought* to me, looked as if it had been placed in a stout upright fork.

All the nests were taken in the interior of low-lying forests, in most places rather scanty and with a considerable amount of straggling undergrowth, here and there interrupted by short stretches of sun-grass. The most noticeable thing about the nests was the extreme neglect of all concealment, they not only being built on branches devoid of foliage, but

bushes being selected for the purpose which stood in comparatively open ground, in two cases just beside a well-worn gaur and buffalo track.

Three appears to be the full number of eggs laid, and these closely resemble many of *Molpastes bengalensis*; but, taken as a series, they are far brighter and more boldly marked than 99 in 100 of that bird.

Of the five clutches, three are much alike; the ground-colour is a creamy white, and the markings consist of small irregular blotches of rather light reddish, subordinate to which are others of pale lavender and equally pale brown. The primary markings are rather numerous everywhere, and extremely so on the larger end, where they form a broad ring, the blotches here running one into another; the secondary blotches are few in number, and are scattered here and there over the whole surface. A fourth clutch has the ground-colour slightly darker, and it is thickly covered everywhere with specks, spots, and large blotches, which vary in colour from a dark reddish purple to a purple so deep as to appear almost black. The secondary blotches, which are few in number, are rather dark inky grey in colour. The fifth clutch differs in wanting the freckles and spots of the last, and in being rather more brightly tinted, the absence of the smaller markings heightening the effect of the others. The texture is smooth and close, and there is a slight gloss. The shell is stout and strong, more so than any other Bulbul's eggs I know, with the exception of *Criniger flaveolus*.

Fourteen eggs average $0''\cdot87 \times 0''\cdot58$. The greatest length and breadth is $0''\cdot91$ and $0''\cdot60$ respectively, and the least both ways is $0''\cdot84$ and $0''\cdot56$.

All my eggs were found in May, and, with the exception of one nest taken at about 1000 feet, all were found at a very low level.

32. MICROTARSUS MELANOCEPHALUS. (*Oates*, op. cit. i. p. 294.)

The only nest I have seen of this bird was one I took on the 12th of May, 1891, at an elevation of some 1600 feet.

The nest itself was very similar in appearance &c. to many of *Molpastes bengalensis*, differing principally in being somewhat more neatly and stoutly built than the majority of nests of that species. Outwardly it was composed of the tough flat stems of a species of wild bean, with, here and there, a soft pliant twig or coarse strip of sun-grass, the first-mentioned material predominating and giving the general grey-brown hue to the nest. The neat but scanty lining consisted of fine sienna-coloured grass-stems and a single skeleton leaf. The nest measured in diameter outwardly about 4" by about 3" inwardly, and the depth about 2".2 by 1".4.

It was very strongly attached to three strong shoots of a young sapling growing in the centre of a thorny bush, even when removed still holding well together, in spite of being thoroughly soaked by the heavy rain which had fallen for some days previously. The eggs, which were three in number and slightly incubated, can also be matched by many of *M. bengalensis*. The ground-colour is a pale fleshy pink, the markings consisting primarily of freckles and large and small blotches of reddish and purplish brown, and secondarily of others of pale dull inky. A few of the superior blotches are very large, some measuring as much as from 0".1 to 0".3 in length by more than half as broad.

In two eggs both kinds of markings are very numerous, and are very equally distributed over the whole surface of the egg, but in the third egg the primary markings are far less plentiful. The three eggs measure 0".97 × 0".65, 0".96 × 0".60, and 0".93 × 0".64.

In shape they are long ovals, somewhat pointed, though not much compressed at the smaller end. With the exception of having a slight gloss, the texture of the egg does not differ from that of the eggs of the genus *Molpastes*.

33. *MICROTARSUS CINEREIVENTRIS*. (*Oates*, op. cit. i. p. 295.)

Of this bird also I have seen but one nest, which in every respect resembled that of *M. melanocephalus*, already described, and which was found in the same valley and on the

following day. It was placed in a low scrubby bush, hardly more than two feet from the ground, but, being surrounded by rather dense cane-brake, was got at only with considerable difficulty. It contained three young, a day or two old.

XIX.—On a new Species of *Xenicus* from an Island off the Coast of New Zealand. By Sir WALTER L. BULLER, K.C.M.G., D.Sc., F.R.S.

(Plate VII.)

PROJECTING into Cook's Strait as a bold and salient point from the eastern shore of Blind Bay, and rising to a height of 2180 feet, is D'Urville Island, presenting a very broken and partially wooded surface. With a width of from five to six miles, it stretches away 17 miles to the northward, whilst to the south it is separated from the mainland by a very narrow channel known as the French Pass.

Lying two miles to the north-eastward of the northern extremity of D'Urville Island, and rising abruptly from the sea to a height of a thousand feet, is Stephens Island, only about a square mile in extent, and more or less wooded on its sides. From this island I have lately received a single specimen of a new species of *Xenicus*, entirely distinct from the two forms (*X. longipes* and *X. gilviventris*) inhabiting the mainland.

I have described this new bird, which may fittingly be called the Island-Wren, as distinguished from our Bush-Wren and Rock-Wren; and as these island-forms present features of special interest to the student of geographic zoology, I am forwarding the specimen itself in the hope that it may be figured.

My correspondent on the island informs me that the bird is semi-nocturnal in its habits, and that he has seen two other examples, all three of them having been brought in at different times by the cat.

I hope shortly to receive further specimens of this interesting form. In the meantime I regret that I am unable to